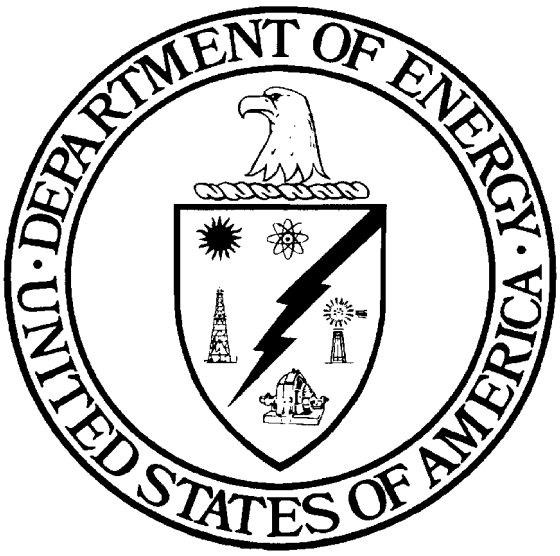
U.S. DEPARTMENT OF ENERGY

Richland Operations Office

Technical Qualification Program

Phase I Self Assessment



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Synopsis

This Phase I Self-Assessment Report reflects the conclusions reached by the Assessment Review Team from the Richland Operation Office with assistance from the DOE-HQ HR-31 office. The Assessment reviewed the implementation of the Department-wide Technical Qualification Program prescribed by DOE Order 360.1, *Training*. These Strengths, Deficiencies, and Recommendations were developed from information gathered during interviews with a representative sample of Manager and Program participants in the organization, and a review of the supporting documentation. The conclusions are based on the status of the Program as it was perceived during the review. Questions or comments concerning the Report should be addressed to the Team Leader, James E. Mecca, Deputy Assistant Manager Facility Transition.

James E. Mecca

Team Leader

CONTENTS

TERMS AND ACRONYMS

AMF	Assistant Manager Facility Transition
DNFSB	Defense Nuclear Facility Safety Board
FRAM	Functional Requirements and Authorities Matrix
FTCP	Federal Technical Capability Panel
HRM	Office of Human Resources Management
IDP	Individual Development Plan
NE	Nuclear Energy (DOE Headquarters)
OPM	Office of Personnel Management
OTR	Office of Training
PNNL	Pacific Northwest National Laboratory
RL	U.S. Department of Energy, Richland Operations Office
SOD	Site Operations Division
SME	Subject Matter Expert
TQP	Technical Qualification Program
TRM	Training Requirements Matrix

1.0 Executive Summary

Results of the Richland Operations Office (RL) Phase I Self-Assessment of the Technical Qualification Program (TQP), conducted between August 3 and August 7, 1998, are presented in this report, which is a deliverable under the commitments of the Revised Defense Nuclear Facility Safety Board (DNFSB) 93-3 Recommendation (DNFSB 1998). The self-assessment was developed under the guidance of the RL Deputy Assistant Manager for Facility Transition and the RL representative to Federal Technical Capability Panel (FTCP).

The purpose of the assessment was to determine the extent to which the current RL-TQP was meeting the intent of the original DNFSB 93-3 Recommendation (DNFSB 1993), and to satisfy a commitment contained in Section 5.4.2 of Recommendation 93-3, Revision 1.d (DNFSB 1998), to ensure that the requirements of DOE Order 360.1, *Training*, Chapter II, and the resultant RL Technical Qualifications Program (TQP) Plan have been implemented.

The assessment identified the following areas in which the current RL TQP meets the intent of the DOE Implementation Plan (DOE 1998) and the *Technical Qualification Program Plan* (DOE-RL 1997) as program strengths.

- Program Administration and Qualification Record Control
- Program Implementation and the Requirements of DOE Order 360.1
- The TQP Qualification Process
- Senior and Line Management Endorsements
- Individual Development Plans and Continuing TQP Needs
- External Peer Review.

The assessment also identified deficiencies associated with the current RL TQP that may hinder and adversely influence the Program baseline and future continuity for Program effectiveness in meeting the intent of the Implementation Plan. Those issues of concern include:

- Approach to Program Design
- Human Resources Management Integration
- Development of Qualification Standards
- Competency Levels and Subject Matter Experts
- Consistency in the Application of the TQP Plan
- Certification and Program Continuity.

The review team recommends re-reviewing the TQPs on some reasonable time line to ensure that the TQP is updated and tailored to the current Mission and functions being performed. In addition, the methodology to accomplish this task should be proceduralized or institutionalized to ensure all new requirements have been considered and that some consistency in the re-review has been established. A corrective action plan is recommended to address current program deficiencies while preserving its strengths.

2.0 Background

The TQP is the process used to objectively determine that personnel performing activities related to the technical management, guidance, oversight, or operation of defense nuclear facilities continues to possess the necessary Knowledge, Skills, and Abilities (KSAs) to discharge their specific duties and responsibilities. The overall TQP is defined by the RL-Technical Qualification Program (RL-TQP) Plan and is administered by the Office of Training (OTR) in coordination with the Office of Human Resources Management (HRM). The program implementation and execution of the Plan is the responsibility of the Line Management and ultimately the responsibility of the Manager of the Richland Operations Office (RL).

The RL-TQP and the other DOE Program and Operations Offices related Plans were established in response to a DNFSB observation that the level of scientific and technical expertise for Federal employees to accomplish DOE's safety responsibilities effectively at defense nuclear facilities was declining.

The DNFSB in its three annual reports prior to the issuance of Recommendation 93-3 had observed that:

> "...the most important and far reaching problem affecting the safety of DOE defense nuclear facilities is the difficulty in attracting and retaining personnel who are qualified by technical education and experience to provide the kind of management, direction and guidance essential to safe operations of DOE's defense nuclear facilities."

DNFSB Recommendation 93-3 was issued on June 1, 1993, and subsequently accepted by the DOE on July 23, 1993. The recommendation discussed the need to improve the technical capability of Federal employees associated with the operation of defense nuclear facilities.

The DNFSB 93-3 Recommendation was based upon the observation that DOE was in a state of "declining expertise." The implementation of the TQP as a response to the DNFSB's Recommendation is DOE's commitment to provide a positive fix for the concern.

The initiatives and commitments contained in the the *Implementation Plan for Improving DOE Technical Capability in Defense Nuclear Facilities Programs* (DOE 1993), represented a significant and fundamental change in the training and qualification programs within DOE. The Department recognized that ensuring the technical competence of the Federal technical workforce is an essential component of a sound safety program.

With the TQP more than five years into implementation (July 1993 to present), the Department has made progress on several aspects of the original Plan, but has not yet achieved all of the improvements outlined in the Plan. In an April 2, 1997, letter to the Secretary, the DNFSB noted that approximately 40 percent of the plan's commitments had not been met or had not achieved the desired effect (DNFSB 1997). The DNFSB also recognized that many of the original commitments needed revision to reflect other changes that occurred during the last five years and requested that the Department revise the Plan. In response to the DNFSB's concerns, the Secretary recommitted the Department to improve Federal technical capabilities, and established the Recommendation 93-3 Recast Working Group to revise the Plan. This

group, consisting of DOE senior managers committed to the success of the TQP, was subsequently designated as the Federal Technical Capability Panel (FTCP) and given the responsibility to facilitate effort "to recruit, deploy, develop, demonstrate capability, and retain Federal personnel with the necessary technical capabilities to 'safely' accomplish the Department's safety missions and responsibilities."

The Department developed a Revised 93-3 Implementation Plan (DOE 1998) to address the DNFSB's concerns. The Revised Plan established TQP objectives that are to be met by each Operations and Program Office. These objectives are general in nature and their goal is for the Department to implement a flexible process, based on uniform principles, to appropriately enhance the technical capabilities of the Federal workforce. Assessment of the current program is one of the first commitments outlined in these objectives, and this report is in response to that commitment.

In line with the Department Plan, DOE-RL developed the *RL Technical Qualification Program Plan* (DOE-RL 1997). The intent of the RL TQP Plan was to aid line management to continue to assure that RL technical personnel meet the prescribed qualification standards necessary to accomplish the RL Mission safely. The RL TQP Plan applies to Federal personnel assigned to or supporting RL Mission activities and operations at Defense Nuclear Facilities and Project Managers who perform safety-related technical duties and tasks. The RL TQP Plan has been voluntarily expanded to include certain Nuclear Energy (NE) and Pacific Northwest National Laboratory (PNNL) activities to ensure consistency and competency throughout the RL Operations Office, as applicable and appropriate. The rigor and formality used when applying the Plan was intended to be consistent with the risk, hazard, and complexity of the activities for which the employee has direct responsibility.

The Assessment may also be used to revise, improve and institutionalize, as appropriate, the direction the TQP for the Operations Office might be heading to assure it is compatible with currently established Missions. A major concern in the review and assessment of the TQP is that associated with the institutionalization of the applied processes employed in the development of the program and the assurance that it is doing the job of identifying shortcomings and needs as the requirements, Mission or facility specific changes may dictate. The proper tracking of the elements of change is vital in developing personnel, attracting the proper new employee, and retaining the correct mix of personnel to accomplish an ever changing Mission safety objective. The methodology or analysis which allows for tie back to the Operations Office Mission and the individual internal offices and Facility Missions, through a needs and staffing analysis and into the Qualification Standards of TQP including a "Change Analysis" will be vital to a successful Phase II assessment. The value added and determination of the program functional effectiveness will be a major portion of the Phase II self assessment to be performed in the near future.

The Assessment for Phase I considered the elements associated with the DNFSB recommendations and contained within the DOE Implementation Plan. A review of the DOE-RL program, to determine the status of these elements, was the intent of the Phase I Assessment. A Phase II Assessment, tentatively set for September 1999, will evaluate the programmatic structure of these elements and how the RL-TQP addresses the issues including competencies, qualifications, and the ability of the managers to evaluate the program participants objectively to the program standards.
Utilizing the Conclusions and Recommendations of the Phase I Assessment will aid in guiding the RL management in defining specific terms, e.g., familiarity, working level, and expert in the competency area.

The link between the TQP Qualification Standards, the included competencies, position descriptions, KSAs, and other vital aspects for the continuing technical improvement of personnel will need to be formally defined.

The Phase I Assessment has shown the RL-TQP does contain all the basic elements required by Recommendation 93-3 and will permit the continued improvement and development of the desired DNFSB program per the DOE Implementation Plan.

3.0 Scope

The Phase I Self-Assessment involved 6 of the 11 internal RL offices and fewer than 300 personnel. These offices represent diverse functions, which may be only partially involved in the TQP process.

In developing the Phase I Self Assessment Plan and Scope, the two previously referenced DNFSB Recommendations, the RL TQP, and other documents were consulted, along with the Draft May 28, 1998, *Technical Qualification Program Assessment Guidance and Criteria*, document which gave added insight to the criteria associated with each Objective listed below. The objectives highlighted in the Revised Implementation Plan as an area to be addressed in the Self Assessment were identified as follows:

TQP-1 **Demonstration of Competence:** The program clearly identifies and documents the process used to demonstrate employee technical competence.

TQP-2 **Competency Levels:** Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.

TQP-3 **Plans and Procedures:** Plans and/or procedures are developed and implemented to govern the administration of the program. At a minimum, these plans and procedures cover the processes required by Chapter II of DOE Order 360.1.

TQP-4 **Qualification Tailored to Work Activities:** The program includes the identification of unique Department and position-specific work activities, and the knowledge and skills necessary to accomplish that work.

TQP-5 **Credit for Existing Technical Qualification Program(s):** The program is structured to allow credit, where appropriate, for other technical qualification program accomplishments.

TQP-6 **Transportability:** Competency requirements that are identified as having Department-wide applicability are transferrable.

TQP-7 **Measurable:** The program contains sufficient rigor to demonstrate compliance to the principles.

In generating the subtier objectives (Attachment A) and the subsequent lines of inquiry, the 14 questions relating to the evaluation of the program effectiveness were also considered. The criteria evaluation

questions are the recommended focus for a Phase I review and stem from the DNFSB Recommendation 93-3 Section 5.4. (DNFSB 1993 and 1998)

4.0 Methodology

The self assessment was conducted using a team approach and the expertise of several individuals (listed in Attachment B). The assessment team interviewed approximately 50 personnel (listed in Attachment C); and whenever possible, two team members were involved in each interview. The interviews included senior management, Division Directors, and TQP participants. As a major interface element, the Office of Human Resources Management (HRM) and the Office of Training (OTR) organizations were also interviewed. A portion of the review included applicable documentation such as plans, procedures, previous assessments, and records to determine the scope and depth of the process and the commitment to the initial implementation and program continuity.

The interview results, without the identity of the interviewee, were displayed in a collage fashion under each Criteria factor or element to assess consistency and differences in response to the same or similar lines of inquiry. These results have been subsequently highlighted in Section 5.1, Program Strengths, and Section 5.2, Program Deficiencies.

5.0 Program Results

5.1 Program Strengths

5.1.1 Program Administration and Qualification Record Control

The RL-TQP is in place and has been effectively administered. The RL-Office of Training (OTR) is the central point of contact for storing TQP-related data, including completed Qualification Records. The program is regularly reported on and is well run. The RL-OTR integrates the program through identified Division Training Coordinators. This network is working well and has the support and respect of the participants and management. Administratively the OTR reports to the RL Operations Manager and the Assistant Manager, Office of Waste Management, who is the RL representative to the Federal Technical Capability Panel (FTCP) and provides the direction of the program regarding technical training and qualification.

5.1.2 Program Implementation and the Requirements of DOE Order 360.1

In the initial design phase of the RL program, as noted in the 93-3 Recommendation, all defense program facilities and positions associated with the facilities and programs were identified. All identified positions have been incorporated into the program. An Office or facility-specific qualification standard has been developed for each position initially entered the program and Functional Area Qualification Standards have been developed as necessary and applicable. All 298 initial participants in the program met the May 28, 1998 qualification date. The process requirements, as outlined in DOE Order 360.1 *Training*, have been met. As noted in Section 5.1.1, RL has satisfied the Headquarters requests for programmatic status reports. The TQP has been voluntarily extended to

certain Nuclear Energy (NE) and Pacific Northwest National Laboratory (PNNL) facilities and positions. This provides the RL Operations Office with consistency in training and qualification for those positions with similar risks, hazards, and complexities and provides some assurance that trained, qualified personnel are available, if needed, in emergencies or on a temporary basis to backfill at a defense program facility or position.

5.1.3 The TQP Qualification Process

Review of the process found that the qualification or competency elements were generally met through equivalency, course work, and challenge exams.

Where equivalencies for competencies were granted, they were based on college course work, work experience, and/or Professional Certification or Professional Licenses already in place. It was determined from a scan of the records that equivalency accounted for about 50 to 70 percent of the competency elements. Equivalencies were evaluated by the supervisors and Division Directors, with a review by OTR, and final review by the respective Assistant Manager. Justifications were available to substantiate all equivalencies. The extensive use of OTR in administration of this process has been described by the participants, both qualifiers and evaluators, as "superb."

When and where course work was the mechanism to satisfy a requirement or element, the course first required review. The course review was primarily fulfilled by an external, qualified reviewer or an RL Subject Matter Expert (SME) at the discretion of OTR . The general rule for course work is that the course needs to fulfill the objective of the requirement or competency element, and an appropriate examination must be administered. Evidence of completion is mandatory. OTR has developed a Competency Level to Training Matrix. The matrix identifies specific courses available to satisfy requirements and attempts to come to terms with the competency level of knowledge question (familiarity, working, or expert). The matrix will be used in the future for new hires and possibly continuing update of current standards.

Challenge examinations, especially for the familiarity and working level elements, have been used for about 5 percent of competency elements or requirements by the participants. The challenge exam system appears to be working well and is well received by those who have used it. Most users felt sufficiently challenged by the process, at least at the familiarity and working levels. Challenge exams are perceived as an effective mechanism to establish satisfactory completion of competency requirements at the current level.

It was found that the "Exemption process" to competency requirements was not widely used. In only rare cases has it been used and then justifiably so. No abuse of the Exemption process was found.

5.1.4 Senior and Line Management Endorsement

Initial support in 1993, for the RL TQP Plan, was mixed at various levels of management. Some managers questioned the "value added" of a TQP plan. Strong endorsement and

direction by the RL Operations Office Manager placed the program in perspective and removed obstacles to implementation of the program. This support by the Operations Office Manager and the subsequent FTCP Representative resulted in continued attention by participants, managers, and training staff in developing an effective program and completing the competency requirements on schedule.

5.1.5 Individual Development Plans and Continuing TQP Needs.

Line managers, when evaluating the Individual Development Plans (IDPs), appear to consider the TQP Plan and incorporate the needs into their annual training plans which are then consolidated for the RL Operations Office.

In addition, although mostly informal, line managers also appear to consider the TQP requirements and position descriptions when evaluating the Knowledge, Skills and Abilities (KSA) requirements of Vacancy Announcements (VA).

Washington State University has developed an onsite degree program and has fashioned technical training courses to reflect TQP requirements. Washington State University and Columbia Basin College coordinate and charge back costs for technical training courses. Scheduling of courses is based on identifying sufficient students to conduct the courses economically. This program has good support within line management.

To date, the overall effort relative to the TQP provides a good baseline. The TQP process can be improved and revised to meet the obligations of the Revised 93-3 Implementation Plan reasonably easily. The program focus on functionality and value added versus a need to meet only the intent of the DNFSB Recommendation 93-3 and needs to be watched carefully. OTR has endeavored to lend proper perspective in this regard.

5.1.6 External Peer Review

The OTR tracks programs and initiatives being developed by other Program and Operations Office locations and has shown a willingness to adopt ideas that would improve this program. In 1996, an independent review of this program was performed by an external team (Hardwick 1996). OTR subsequently developed an internal corrective action plan (DOE RL 1996) and successfully adopted those suggestions that were meaningful to program improvement.

5.2 Program Deficiencies

5.2.1 Approach to Program Design

Although a tie exists between the TQP Plan and the Operations Office and Division Missions and Functions (Functional Requirements and Authorities Matrix [FRAM], etc.) and those elements that were considered in the development of the original Qualification Standards, the methodology by which that was accomplished was not institutionalized. It is also not formalized or clear that the Qualification Standards focus on the necessary

competency requirements for specific Position Descriptions (PDs) for about the same reason, the formalization of the need or requirement to do so. Given that the baselines established/initially included input and reviews by Division Directors, Supervisors, Technical Experts and Consultants and fulfilled the need at the time the methodology, although reconstructible, should be formalized or institutionalized to ensure a readily recognizable route or analytical method exists for future changes made to the current Standards and added Standards that may be developed. Position Descriptions need to routinely be revisited as a part of the TQP process considering that there may be definitive changes to the risks, hazards, and complexities of a facility or functions as the work scope and tasks evolve and change.

5.2.2 Human Resources Integration

No formal integration of the Office of Human Resources Management (HRM), Line Management, and OTR exists. The approach to define the Knowledge, Skills, and Abilities analysis, Position Descriptions definitions, and Vacancy Announcements is not formally integrated with the TQPs. It does not appear that the TQP has been formally incorporated into the hiring, assignment, or reassignment processes within the RL Office.

It does not appear that important considerations, including the Office of Personnel Management (OPM) requirements, and Privacy Act requirements, have been properly evaluated in the development of the TQP Plan and associated Qualification Standards.

It is anticipated that the Office of Personnel Management (OPM) may, in the near future, be conducting a review of the RL Critical Technical Positions. Most likely that review will involve the TQP Qualification Standards and/or Competencies. Unless the Knowledge, Skills, and Abilities have been properly scoped, a disconnect will exist between the two programs.

5.2.3 Development of Qualification Standards

Some inconsistency in the application of the TQP, between Divisions, appears to exist. Some Divisions have made a concentrated effort to review and evaluate their true functional needs while others have focused on fulfilling a generic need only (meeting the letter of the DOE Implementation Plan for DNFSB 93-3 and not the intent).

5.2.4 Competency Levels and Subject Matter Experts

The differentiation of levels of competency (familiarity, working, and expert) is not established except for SMEs and some Excepted Service (e.g., Senior Technical Advisor for Nuclear Safety, Radiological Controls, etc.) positions. Although the original Headquarters TQP Plan attempted to differentiate competency levels, the differentiation appears to have been deleted.

The SME program is relatively new at RL and was not formalized until early in 1998 to support the requirements of TQP. Some of the original intent of employing SMEs was to

participate positively in the training and evaluation program of the Divisions. The SMEs have not been used to evaluate competency completion with any degree of regularity.

It has been noted that most all originally assigned SME Charters have expired and need to be formally renewed or permanently assigned until further notification.

5.2.5 Consistency in the Application of the TQP Plan

Guidance regarding the Division Training Coordinators (DTCs) is required to gain some consistency in record keeping and field administration of the program and records. As the major interface for the Division and interface with OTR, it is vital that they regularly participate in the monthly OTR meetings. Attendance by some Divisions has been lax. There needs to be an established competency level for a DTC, which currently varies from a technical engineering interface for some Divisions to the secretarial/clerical level in others. This may influence the message being delivered to the Division Director and even influence the specific program direction and the attention a given Line Manager will provide to the program. The position of the DTC needs to be evaluated for its importance to the program.

Regularly scheduled, formal training orientation and guidance sessions are not required or held. Initial training/explanation sessions were held with affected Line management to kick off the RL TQP Plan, but no follow-up sessions have been conducted. Training orientation and guidance sessions, which are vital to ensure consistent application for the review of competency levels via the equivalencies, are maintained. Guidance sessions to explain the very detailed requirements of DOE Order 360.1 and any improvements in the TQP development program to improve the qualification standards and evaluation process and ensure that it is consistently administered are not now evident.

The OTR program administration does not now include, in all instances, all Facility-Specific or Office Specific Qualification Standards or files. Specifically those files associated with the Facility Representative programs are not centralized. Separate programs and records need to be integrated in one central location.

5.2.6 Certification and Program Continuity

The program at the current stage has built up a certain momentum and gained significant acceptance, which is viewed as an important positive attribute.

At this time no evidence can be found of a formal continuing program to assure that the level of Knowledge, Skills, and Abilities is maintained or changed to reflect changing conditions or requirements. The issue regarding refresher or recertification of competencies or specific competency elements needs to be addressed to maintain program credibility and continuity.

Professional licenses/registration and certifications are used to establish elements of

qualification standard equivalency; however, there is little or no emphasis or incentive for completion of professional certification. A more vigorous approach to continuing personnel improvement is needed. Acceptance of professional certification/registration as evidence, credence, and credibility via some reciprocity acknowledgment would also provide the TQP similar value.

6.0: General Conclusions and Recommendations

It is the conclusion of this assessment that the TQP Plan established by RL has been implemented and fulfills the requirements of DOE Order 360.1, *Training*, Chapter II and the commitment contained in Section 5.4.2 of the Revised 93-3 Implementation Plan. By May 28, 1998, all 298 program participants had completed the initial qualification program.

Line Management Support and Value Added

The issue of line management support and commitment to the TQP has been raised by some DOE middle management and participants. The main concern, it appears, is not so much with the program philosophy, but rather with the content of the qualification standards and the value added to the successful completion of their respective programs from a safety and cost effectiveness perspective.

The upper management commitment to the RL-TQP Plan of Action is manifested in the fact that the Operations Office Manager signed, and thus endorsed, the RL-TQP Plan on March 27, 1998 (DOE RL 1998). The progress of the implementation of the Plan has been updated during weekly management meetings and delinquencies noted by the RL Operations Office Manager. The RL commitment to the TQP was reenforced, as needed, during the status discussion. There is no doubt as to the commitment by the upper management.

The value added and worthiness of the various Qualification Standards could be a major focus of the Phase II Assessment to be initiated later this calendar year. This issue involves the analytical methodology associated with the program, the design, and the construction of the Qualification Standards as these are related or tied to Operations Office Mission, Division functions, and work scope through an understandable job function analysis and job task analysis.

Recommendations

Although somewhat more complicated, a reasonably good methodology for the development of the original qualification standards was employed. Division Directors and supervisors considered their Missions and Functions, were interviewed and the results discussed with experienced external consultants. The result of that effort produced the initial draft Qualification Standards that were then passed back to the Division Directors for review, comment, and tailored changes, as appropriate. The current Functional Area and Facility Specific Qualification Standards are, therefore, well founded and compatible with the requirements of the time. The mechanism by which the development of the standards took place was not institutionalized or proceduralized. Some fifty (50) proposed standards were initially

developed in the above manner and thirty (30) were adopted for use with twenty (20) currently being used.

It is recommended that the Qualification Standards be periodically reviewed to ensure they remain compatible with the changing Missions and Functions of the day. It is further recommended the methodology by which this may be accomplished be proceduralized or institutionalized so that there is consistency in the manner in which the review is conducted and to ensure that changes in requirements impacting upon safety have been properly considered. It is imperative that the Qualification Standards be tailored to fit the requirements of the work scope and tasks to be performed if the personnel are to successfully monitor, overview, assess and otherwise interface and perform their assigned work. (See the Deficiency statements for 5.2.1 and 5.2.3.)

Interface Between RL Affected Organizations and Complementary Records and Written Descriptions

At this time there appears to be no formal interface between the Line Management, the Office of Human Resources Management, and the Office of Training.

The interconnection between Position Descriptions (PDs); Knowledge, Skills, and Abilities (KSAs); Vacancy Announcements (VAs); and qualification standards, in general, is not formalized. The institutionalization of the manner in which this interconnection is maintained needs clarification.

Recommendation

It is recommended that a small committee determine the best way to formalize the review of the above materials (PDs, KSAs, VAs, and TQP Qualification Standards), to ensure the desired result that each internal Office is trying to achieve. HRM will be a part of this committee and will ensure that OPM and/or DOE regulations are met. A procedure, directive, guidance document, or even a Memorandum of Understanding (MOU) is required to ensure business is conducted in a logical, consistent fashion. (See the Deficiency statement 5.4.2.)

Complementary Records

Currently all the completed training records are not kept by OTR. Specifically, the Facility Representative Facility Specific Qualification Records for some Divisions are not on file or are not complete within the existing OTR files. OTR does not interface in the Division training requirements for these Divisions. The Records for all Divisions should be kept in a centralized location when completed. The DNFSB Recommendation 93-3 does not limit itself to program engineers only.

Recommendation

The Assistant Manager for Facility Transition/Site Operations Division (AMF/SOD) Facility-Specific Qualification Standards do not reside in the OTR files. These records are known to exist. Further, it is also known that an extensive effort has gone into the Qualification Program and the completion of the documentation of the qualification requirements. It is recommended that the completed Facility Representative Records for all Divisions be forwarded to OTR and updated, as may be applicable, so that

the Operations Office has as complete an inventory of these Records and gets the credit for a this extensive effort. (See also the Summary Recommendations in Attachment D for additional information.)

7.0 References

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Attachments

Attachment A

TECHNICAL QUALIFICATION PROGRAM ASSESSMENT OBJECTIVES AND CRITERIA

The basic seven TQP Principles were taken from the Revised DNFSB 93-3 Recommendation Section 5.4, Development. For completeness, additional Criteria items were added to TQP-1 (1.4, 1.5, and 1.6); TQP-2 (2.5 and 2.6); and TQP-3 (3.6). In each case the additions were based on requirements taken from DOE Order 360.1, Chapter II. The additions added strength to the assessment to assure adherence to the DOE Order as well as the DNFSB Recommendation.

TQP-1 **Demonstration of Competence:** The program clearly identifies and documents the process used to demonstrate employee technical competence.

Criteria:

1.1 At a minimum, personnel providing management direction or oversight that could impact the safe operation of a defense nuclear facility have been identified as participants in the Technical Qualification Program.

1.2 Individual Development Plans (IDPs), training plans, technical qualification records, or other related documents are updated to reflect the activities that each individual shall participate in to satisfy competencies

1.3 A formal evaluation process is in place to objectively measure the technical competency of personnel. The rigor of the evaluation process is commensurate with the responsibilities of the position.

1.4 Exemptions from individual competency requirements are approved and documented in accordance with the requirements of Chapter II of DOE Order 360.1.

1.5 Participants in the Technical Qualification Program (TQP) are making adequate progress in completing the requirements of the program.

1.6 Each of the participants in the Technical Qualification Program (TQP) are required to complete the General Technical Base Qualification Standard, Function Area Qualification Standard, and if applicable, an Office/Facility Specific Qualification Standard.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-2 **Competency Levels:** Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.

Criteria:

2.1 Competency requirements include clearly defined knowledge, skill, and ability elements.

2.2 Subject Matter Experts (SME) are involved in establishing competency requirements.

2.3 Consideration of related professional certification requirements is included in the program, as applicable.

2.4 Competency requirements are identified in the areas listed below (Note: this does not imply that three separate documents are required).

- Basic Technical Knowledge: This includes basic fundamental knowledge of radiation protection, occupational safety, chemical safety, nuclear safety, environmental regulations, and other areas.
- Technical Discipline Competency: Competency in a technical discipline (e.g., mechanical engineering, chemical engineering) which can be demonstrated by education, professional certification, examination, or on-the-job performance.
- Position Knowledge, Skills, and Abilities: Specific to the position and the office.

2.5 Equivalencies for competencies are approved and documented in accordance with the requirements of Chapter II of DOE Order 360.1.

2.6 Learning activities are developed and implemented to support the implementation of the Technical Qualification Program to meet the content requirements of the competencies in the Qualification Standards, and the programmatic requirements of Chapter III of DOE Order 360.1.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-3 **Plans and Procedures:** Plans and/or procedures are developed and implemented to govern the administration of the program. At a minimum these plans and procedures cover the processes required by Chapter II of DOE Order 360.1.

Criteria:

3.1 The Technical Qualification Program (TQP) has the commitment of senior management.

3.2 Written procedures that adequately define the processes and requirements to implement the TQP are in place.

3.3 Roles and responsibilities for the implementation of the Technical Qualification Program are clearly defined and understood by all involved

3.4 The procedures that govern the implementation of the Technical Qualification Program are understood by all involved, and are being implemented as written.

3.5 A training and qualification records system is established for each employee in the Technical Qualification Program. The records system includes the documents required by Chapter II and Chapter III of DOE Order 360.1.

3.6 Office/Facility Specific Qualification Standards are developed, as appropriate, and implemented. These Standards adequately address the requirements of the position that are unique to the Office and/or the Facility.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-4 **Qualification Tailored to Work Activities:** The program includes the identification of unique Department and position-specific work activities, and the knowledge and skills necessary to accomplish that work.

Criteria:

4.1 An analysis has been performed to identify the related knowledge, skill, and ability elements to accomplish the duties and responsibilities for each Technical Qualification Program functional area or position.

4.2 The program includes job-specific requirements related to rules, regulations, codes, standards, and guides necessary to carry out the mission of the Office.

4.3 The program supports the mission needs of the Office.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-5 **Credit for Existing Technical Qualification Program(s):** The program is structured to allow credit, where appropriate, for other technical qualification program accomplishments.

Criteria:

5.1 Credit (equivalency) is granted for previous training, education, experience, and completion of related qualification/certification programs, where applicable.

5.2 Equivalency is granted based upon a review and verification of objective evidence such as transcripts, course certificates, test scores, or on-the-job experience.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-6 **Transportability:** Competency requirements that are identified as having Department-wide applicability are transferrable.

Criteria:

6.1 The program includes all of the competencies that have been identified as having Department-wide applicability.

6.2 Formal documentation of the completion of Department-wide competencies is maintained in a manner that will allow for easy transferability.

6.3 The Technical Qualification Program is integrated with personnel-related activities such as position descriptions, vacancy announcements, recruiting, and performance appraisals.

TECHNICAL QUALIFICATION PROGRAM
ASSESSMENT OBJECTIVES AND CRITERIA

TQP-7 **Measurable:** The program contains sufficient rigor to demonstrate compliance to the principles.

Criteria:

7.1 The technical competency of personnel who have completed the requirements of the Technical Qualification Program is adequate and appropriate.

7.2 The program allows for continuous feedback and periodic evaluation to ensure that it meets the needs of the Department and the mission(s) of the Office.

7.3 The program includes provisions for continuing training.

In addition, Section 5.4, Development, of the Revised Recommendation 93-3 provides the potential areas for the evaluation of the effectiveness of the program in the following series of questions.

1. Are the Technical Qualification Program principles embodied in the Office's Program?

2. Are the Roles and Responsibilities defined?

3. Does it require a rigorous job and task analysis to be performed for each identified position?

4. Are related Knowledge, Skill, and Ability elements defined?

5. Is an assessment system in place that measures the technical competency of personnel?

6. Are there feedback mechanisms included in the program?

7. Does the program meet the Office's Mission needs?

8. Are the appropriate positions included in the program?

9. Has the technical competency of personnel been upgraded?

10. Is the level of technical competency of personnel who have completed the program adequate and appropriate?

11. Do the office programs identify job-specific requirements that focus on Rules, Regulations, Codes, Standards, and Guides necessary to carry out the Office's Mission needs?

12. Are the Office-Specific programs consistent with the Office's Roles and Responsibilities?

13. Have the Office-Specific programs verified the adequacy of each individual's experience and relevant experience?

14. Does the program provide for continuing training?

Attachment B

Team Members

Team Lead: James Mecca, Deputy Assistant Manager, Facility Transition

Charles Hanson, Assistant Manager, Waste Operations

Christian Bosted, Director, Waste Operations Division

Carolyn Ballard, Program Analyst, Office of Training

Benjamin Burton, Facility Representative, PFP

David Roth, Assistant Director for Technical & Professional Programs, HQ

Joseph Voice, Team Lead: Safety & Health Management Team, QSH Programs Division

Stacy Helmann, Facility Representative Program Manager, Waste Operations Division

RL-TQP PHASE I ASSESSMENT TEAM

Concurrence Signatures and Date

James Mecca _____

Christian Bosted _____

Carolyn Ballard _____

Benjamin Burton _____

David Roth _____

Joseph Voice _____

Stacy Helmann _____

Attachment C

List of Individuals Interviewed

Joe Voice/ Ben Burton/Jim Mecca

Joe (Ed) Parsons
Dave Evans
Ray Douglas
Charles Kasch
Annette Barnard
Dennis Humphreys
Richard Self (several discussions)
Craig Christenson
David Langstaff

Carolyn Ballard/ Jim Mecca

Rudy Cruz
Julie Hathaway
Sherri Scheer

Stacy Helmann

Ron Gerton
Ami Sidpara
Dennis Humphreys
David Squires
Kirk Hintzen

Chris Bosted / Dave Roth

R. Pierre Saget
Richard Self
Carol Sohn
Linda Bauer
Ron Gerton
Maureen Hunemuller
Paul Kruger
Jim Rasmussen
Carrie Swafford-Chube
Mario Moreno
Bob Petty
Chad Henderson
Mike Collins
Dick Grill
Owen Robertson
Chris Smith
Paul Krupin

Attachment D

Summary List of Recommendations

1. Analogical Methodology for Program Design

   A policy directive, procedure, or guidance which addresses itself to periodic "Change Analysis" to ensure that Mission change, new requirements, and other baseline changes impacting safety are considered and incorporated. The methodology for the evaluation needs to be formalized.

2. Interface between Line Management, HRM and OTR

   The interface between the Line Management, Office of Human Resources Management (HRM), the Office of Training (OTR), needs to be strengthened. The current tie to appraisal evaluations, position description definition and vacancy announcements is informal, at best, and requires formalization.

3. Centralized Records

   Program Qualification Standards and approvals are not all incorporated into the file and record system of OTR and need to be entered. Specifically, Records for certain Office and Facility Specific Qualification Standards and approvals, although known to exist, are not centrally located.

4 Subject Matter Experts

   The Subject Matter Expert (SME) program needs to be revitalized and formally chartered. Most SME's charters and/or mandates have expired and need to be extended and/or be finalized. SMEs and their role and responsibility needs to be clarified and their utilization expanded into the TQP.

5. Program Guidance

   At the current time, some momentum has been established and concurrence with the rationale for the TQP agreed to by the participants. Changes to the program guidance as used to establish Qualification Standards and/or any other institutionalization of the program needs to be made available to the participants in informational sessions on some periodic time frame so that the importance of the program and momentum regarding it is maintained.

6. 360 Appraisals and Individual Development Plans (IDPs)

   Although the IDPs are evaluated by the Supervisors and Division Directors, little or no relationship between the annual 360 Appraisal and the personal IDP exist. It is recommended that the relationship between the two very important elements be strengthened.

7. Professional Licenses and Certifications

More professional reciprocity needs to be considered when creating and evaluating Qualification Standards. Acceptance of Professional Certification/Registration as evidence, credence, and credibility would also enhance the TQP. More encouragement to pursue professional development programs needs to be made.